UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/727,718	11/30/2000	Julian Van Erlach	XILL-3095	4074

5409 7590 02/17/2006

ARLEN L. OLSEN
SCHMEISER, OLSEN & WATTS
3 LEAR JET LANE
SUITE 201
LATHAM, NY 12110

EXAMINER	
SMITH, RUTH S	

ART UNIT	PAPER NUMBER
3737	

DATE MAILED: 02/17/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

UNITED STATES PATENT AND TRADEMARK OFFICE

Commissioner for Patents
United States Patent and Trademark Office
P.O. Box 1450
Alexandria, VA 22313-1450
www.uspto.gov

BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

Application Number: 09/727,718
Filing Date: November 30, 2000
Appellant(s): ERLACH ET AL.

Schmeiser, Olsen & Watts
For Appellant

EXAMINER'S ANSWER

This is in response to the appeal brief filed January 26, 2006 appealing from the Office action mailed August 31, 2005.

(1) Real Party in Interest

A statement identifying by name the real party in interest is contained in the brief.

(2) Related Appeals and Interferences

The examiner is not aware of any related appeals, interferences, or judicial proceedings which will directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal.

(3) Status of Claims

The statement of the status of claims contained in the brief is correct.

(4) Status of Amendments After Final

The appellant's statement of the status of amendments after final rejection contained in the brief is correct.

(5) Summary of Claimed Subject Matter

The summary of claimed subject matter contained in the brief is correct.

(6) Grounds of Rejection to be Reviewed on Appeal

The appellant's statement of the grounds of rejection to be reviewed on appeal is correct.

(7) Claims Appendix

The copy of the appealed claims contained in the Appendix to the brief is correct.

(8) Evidence Relied Upon

4,793,825	Benjamin et al	12-1988
5,876,989	Berg et al	3-1999
6,375,931	Ostensen et al	4-2002
6,472,874	Chandrakumar et al	10/2002
4,120,649	Schechter et al	10-1978

5,071,964	Dustin et al	12-1991
6,090,408	Li et al	7-2000
WO/97 10847	Jacobs et al	3-1997

(9) Grounds of Rejection

The following ground(s) of rejection are applicable to the appealed claims:

Claims 1,5-6,9,14 have been rejected under 35 U.S.C. 103(a) as being unpatentable over Benjamin et al ('825) in view of Berg et al. Benjamin et al disclose a method and system for injecting a microdevice which is encapsulated into a cell (column 15, lines 33-34) into a body. Benjamin et al disclose using a microdevice carrying circuits for signal processing, the circuits containing silicon, phosphorus, providing output and transmitting information. It should be noted that while Benjamin et al disclose the use of white blood cells, the disclosure on lines 33-34 of column 15 does not preclude the use of other cell types such as red blood cells. The use of a white blood cell is merely an example disclosed by Benjamin et al. It would have been obvious to one skilled in the art that the method of Benjamin et al would be applicable to any type of cell that can be placed in vivo. It is known to encapsulate something into a cell through methods such as osmotic lysis or electroporation as disclosed for example by Berg et al (column 1, lines 8-20). Therefore, it would have been obvious to one skilled in the art to have modified Benjamin et al such that the microdevice is introduced into the cells via electroporation or osmotic lysis. Such a modification merely involves the selection of one well known method for providing for cell encapsulation of a substance.

Claims 11,12 have been rejected under 35 U.S.C. 103(a) as being unpatentable over Benjamin et al in view of Berg et al as applied to claim 1 above, and further in view of Ostensen et al. Ostensen et al disclose microparticles circulating in a body and detectable by magnetic resonance for medical diagnosis. It would have been obvious to one skilled in the art to have further modified Benjamin et al such that it is a resonance

type nanodevice that is detected by magnetic resonance. Such a modification merely incorporates a well known technique for following the course of a device placed within the body.

Claim 13 has been rejected under 35 U.S.C. 103(a) as being unpatentable over Benjamin et al in view of Berg et al and Ostensen et al as applied to claim 12 above, and further in view of Chandrakumar et al. Ostensen et al disclose microparticles circulating in a body and detectable by different imaging modalities for medical diagnosis. EPR is one well known type of imaging modality. It is known, as disclosed by Chandrakumar et al to use EPR imaging whereby the molecules detected comprise transition metal complexes. It would have been obvious to one skilled in the art to have further modified Benjamin et al such that EPR is used to detect the presence of the device in the body. Such a modification merely incorporates a well known technique for following the course of a device placed within the body.

Claim 15 has been rejected under 35 U.S.C. 103(a) as being unpatentable over Benjamin et al ('825) in view of Jacobs et al. Benjamin et al disclose a method and system for injecting a microdevice into the vascular system. The device is coated and therefore considered to be encapsulated. The device is placed into the blood vessel and is therefore extracellular. Benjamin et al disclose using a microdevice carrying circuits for signal processing, the circuits containing silicon, phosphorus, providing output and transmitting information. It is well known in the art to use nonimmunogenic polymers to enhance retention of implanted device by inhibiting immune recognition thereof. An example of such is seen in Jacobs et al. Therefore, it would have been obvious to one skilled in the art to have encapsulated the device in a nonimmunogenic polymers in order to enhance vascular retention and prevent/diminish phagocytosis, endocytosis, or immune complex-mediated clearance.

Claim 16 has been rejected under 35 U.S.C. 103(a) as being unpatentable over Benjamin et al ('825) in view of Jacobs et al as applied to claim 15 above, and further in view of Schechter. Schechter discloses the treatment of devices placed within a body

with a compound to improve biological function by reducing antigencity and prolonging retention by the host. It would have been obvious to one skilled in the art to have further modified Benjamin et al such that the device is treated with a material to prolong retention in the body in order to prolong its use.

Claims 17-19 have been rejected under 35 U.S.C. 103(a) as being unpatentable over Benjamin et al ('825) as applied to claim 15 above, and further in view of Dustin et al or Li et al. Dustin et al disclose the use of lipid anchors to enable the attachment of circulating micelles to a variety of target molecules on a cell. Furthermore, it is well known in the art that organo hydroxyls (e.g. ethylene glycol) are used as cross-linking molecules that can be modified to have little effect on the chemistry of the molecules being linked. Li et al disclose the use of ethylene glycol as a lipid anchor to enhance the attachment of circulating microparticles to reduce clearance by the reticuloendothelial system and thereby increase the medical effectiveness of the microparticles. Therefore, it would have been obvious to one skilled in the art to have further modified the device such that it includes a lipid anchor to promote attachment of the device to a cell and thereby prolong its presence in a body and enhance its diagnostic or therapeutic function.

(10) Response to Argument

With regard to the appellant's arguments directed to the rejection of claims 1,5,6,9 and 14, it is respectfully submitted that while Benjamin et al disclose the use of white blood cells, the disclosure on lines 33-34 of column 15 does not preclude the use of other cell types such as red blood cells. The use of a white blood cell is merely an example disclosed by Benjamin et al. Without the encapsulation process inherently provided by a white blood cell, one skilled in the art would have looked to other teachings for providing encapsulation of something into a cell and Berg et al provides such a teaching.

With regard to the appellant's arguments directed to the rejection of claim 15, it is respectfully submitted that while there must be motivation for combining reference

teachings, there is no requirement that the motivation be expressly articulated or suggested by the prior art. Instead the suggestion for combining the reference teachings may be an implied suggestion. Given the level of skill in the art, it would have been obvious to one skilled in the art to have encapsulated the device in a nonimmunogenic polymers in order to enhance vascular retention and prevent/diminish phagocytosis, endocytosis, or immune complex-mediated clearance as is well known in the art.

(11) Related Proceeding(s) Appendix

No decision rendered by a court or the Board is identified by the examiner in the Related Appeals and Interferences section of this examiner's answer.

For the above reasons, it is believed that the rejections should be sustained.

Respectfully submitted,

Ruth S. Smith
Primary Examiner

Conferees:

BRIAN L. CASLER
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 3700

ANGELA D. SYKES
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 3700